

WHAT IS CLAIMED IS:

1. A set of nucleic acids comprising:

a first nucleic acid containing SEQ ID NO:1 or 3, and

a second nucleic acid containing SEQ ID NO:2 or 4,

wherein each nucleic acid is 18-40 nucleotides in length.

2. The set of nucleic acids of claim 1, wherein the first nucleic acid contains

SEQ ID NO:1 and the second nucleic acid contains SEQ ID NO:2.

3. The set of nucleic acids of claim 2, wherein each nucleic acid is 18-30

nucleotides in length.

4. The set of nucleic acids of claim 3, wherein the first nucleic acid is SEQ ID

NO:1 and the second nucleic acid is SEQ ID NO:2.

5. The set of nucleic acids of claim 1, wherein the first nucleic acid contains

SEQ ID NO:3 and the second nucleic acid contains SEQ ID NO:4.

6. The set of nucleic acids of claim 5, wherein each nucleic acid is 24-32

nucleotides in length.

7. The set of nucleic acids of claim 6, wherein the first nucleic acid is SEQ ID

NO:3 and the second nucleic acid is SEQ ID NO:4.

8. A nucleic acid obtained from amplification of an *Escherichia coli* nucleic acid

template with an upstream primer containing SEQ ID NO:1 or 3 and a downstream primer

containing SEQ ID NO:2 or 4, wherein each primer is 18-40 nucleotides in length.

9. The nucleic acid of claim 8, wherein the upstream primer contains SEQ ID

NO:1 and the downstream primer contains SEQ ID NO:2.

1 10. The nucleic acid of claim 9, wherein each primer is 18-30 nucleotides in
2 length.

1 11. The nucleic acid of claim 10, wherein the upstream primer is SEQ ID NO:1
2 and the downstream primer is SEQ ID NO:2.

1 12. The nucleic acid of claim 8, wherein the upstream primer contains SEQ ID
2 NO:3 and the downstream primer contains SEQ ID NO:4.

1 13. The nucleic acid of claim 12, wherein each primer is 24-32 nucleotides in
2 length.

1 14. The nucleic acid of claim 13, wherein the upstream primer is SEQ ID NO:3
2 and the downstream primer is SEQ ID NO:4.

1 15. A nucleic acid that is 26-1000 nucleotides in length comprising a sequence
2 selected from the group consisting of SEQ ID NOs:5-8, or a sequence complementary
3 thereto.

1 16. The nucleic acid of claim 15, wherein said nucleic acid is 26-500 nucleotides
2 in length.

1 17. The nucleic acid of claim 16, wherein said nucleic acid is 26-200 nucleotides
2 in length.

1 18. The nucleic acid of claim 17, wherein said nucleic acid is 26-50 nucleotides in
2 length.

1 19. The nucleic acid of claim 18, wherein said nucleic acid is SEQ ID NO:5.

1 20. The nucleic acid of claim 18, wherein said nucleic acid is SEQ ID NO:6.

- 1 21. The nucleic acid of claim 18, wherein said nucleic acid is SEQ ID NO:7.
- 1 22. The nucleic acid of claim 18, wherein said nucleic acid is SEQ ID NO:8.
- 1 23. The nucleic acid of claim 15, wherein said nucleic acid is SEQ ID NO:5.
- 1 24. The nucleic acid of claim 15, wherein said nucleic acid is SEQ ID NO:6.
- 1 25. The nucleic acid of claim 15, wherein said nucleic acid is SEQ ID NO:7.
- 1 26. The nucleic acid of claim 15, wherein said nucleic acid is SEQ ID NO:8.
- 1 27. A method of detecting *Escherichia coli*, comprising:
2 providing a sample having a nucleic acid from an unknown microorganism;
3 amplifying the nucleic acid with an upstream primer containing SEQ ID NO:1 or 3
4 and a downstream primer containing SEQ ID NO:2 or 4, each primer being 18-40
5 nucleotides in length; and
6 detecting an amplification product;
7 whereby detection of the amplification product indicates the presence of *Escherichia*
8 *coli*.
- 1 28. The method of claim 27, wherein the upstream primer contains SEQ ID NO:1
2 and the downstream primer contains SEQ ID NO:2.
- 1 29. The method of claim 28, wherein each primer is 18-30 nucleotides in length.
- 1 30. The method of claim 29, wherein the detecting step includes hybridizing the
2 amplification product to a nucleic acid probe that is 26-1000 nucleotides in length and
3 contains a sequence selected from the group consisting of SEQ ID NOs:5-8, or a sequence
4 complementary thereto.

1 31. The method of claim 30, wherein said nucleic acid probe is 26-50 nucleotides
2 in length.

1 32. The method of claim 27, wherein the upstream primer contains SEQ ID NO:3
2 and the downstream primer contains SEQ ID NO:4.

1 33. The method of claim 32, wherein each primer is 24-32 nucleotides in length.

1 34. The method of claim 33, wherein the detecting step includes hybridizing the
2 amplification product to a nucleic acid probe that is 26-1000 nucleotides in length and
3 contains a sequence selected from the group consisting of SEQ ID NOs:5-8, or a sequence
4 complementary thereto.

1 35. The method of claim 34, wherein said nucleic acid probe is 26-50 nucleotides
2 in length.